

REMARKS

This application has been amended so as to place it in condition for allowance at the time of the next Official Action.

The Official Action rejects claims 12-16, 21, 22, 34-37, and 42-44 under 35 USC §102(b) as being anticipated by ZWICKER et al. Reconsideration and withdrawal of this rejection are respectfully requested for the following reasons:

In order to properly consider the ZWICKER reference, it is necessary to consider carefully what the reference discloses in an enabling manner. For this reason, it is necessary to consider the entirety of the disclosure of such reference.

The BACKGROUND OF THE INVENTION portion of the ZWICKER reference discusses two prior art documents, and concludes with this comment about this prior art: *"...if such microphones were arranged close to the ears of the user in this system the desired directional characteristic of the overall arrangement would be destroyed, particularly in the high frequency range"* (column 1, lines 43-47; underlining added). Thus, the context of the ZWICKER application is the desire to make a directional hearing aid.

As persons skilled in the art know, a directional hearing aid is a hearing aid with a single main sensitivity direction. Accordingly, ZWICKER's intention is to make a hearing aid with only one main sensitivity lobe straight ahead, which is further illustrated by ZWICKER's explanation of how to use the invention: *"...the user can turn his or her head to the incident*

direction of the audio information, and thus automatically align the direction microphone arrangement with the sound source."
(column 2, lines 8-11; underlining added).

This is also illustrated in column 1, lines 50-54, where ZWICKER presents the object of the invention: "... to provide a hearing aid which provides the sensation of three-dimensional orientation to the user without destroying the directional characteristic of the directional microphone arrangement" (underlining added). So, all embodiments of ZWICKER's hearing aid should necessarily be interpreted as being mono-directional hearing aids. This is the only interpretation that the reference enables. Alternative interpretations of the behavior of the ZWICKER device are not enabled, and therefore cannot be attributed to such reference.

The Official Action further states that ZWICKER discloses in Figure 1 a hearing aid wherein each of the main sensitivity directions lies at an angle to a main axis of the array. However, Figure 1 does not show any sensitivity direction of the array. On the contrary, Figure 1 shows the physical location of the microphones, which says nothing about the sensitivity direction of the array. For example, a spectacle frame with an array in the front of the frame can have a sensitivity direction straight ahead (which in that case is perpendicular to the physical line of microphones).

Technically, there is no room for any broader interpretation either. The ZWICKER arrangement has two so-called "locating" microphones M01 and M02 to be positioned close to a left and right ear, respectively (cf. Figure 1). Despite these locating microphones being present, ZWICKER himself concludes: "The directional pattern of the directional microphone arrangement is substantially undisturbed by the low-pass filtered, i.e., low frequency, signals from the locating microphones" (column 2, 11-14; underlining added). So, ZWICKER himself contradicts the Examiner's statement that ZWICKER would disclose the characteristic of the present invention recited as: "wherein each means for converting acts on corresponding said subset of microphone output signals so that the left and right array output signals correspond [to] two distinct main sensitivity directions (inherently form two frontal directional sensitivity direction[s] by M1, M2 or M1', M2') that lie at an angle to one another" (Office Action, paragraph combining pages 2 and 3).

Moreover, ZWICKER consistently explains that the signals as generated by the microphones M1, M2, M1', M2' are summed to provide one single output signal for both the left and right ear. For example, column 2, lines 64-68, summarizes: "The signals from both locating microphones are mixed with the signal of the directional microphone arrangement by a low-pass filter, and the result of the mixing is supplied in common to both ears

of the hearing-impaired person" (column 1, lines 64-68; underlining added). Hence, the one directional signal is fed to both ears. Figure 2 shows how this is done in an embodiment: all signals from microphones M1, M2, M1', M2' are summed by a summing unit 16 that generates a single signal SA for both ears (cf. also column 3, lines 5-9). This summing of all four microphone signals means that they necessarily produce together a single main sensitivity lobe having a single main sensitivity direction, as persons skilled in the art know.

The characteristic of the independent claims are necessarily inherited by the claims that depend therefrom, and the analysis provided above therefore applies equally to such claims.

The Official Action rejects claims 27-33, 38-41, and 45-70 under 35 USC §103(a) as being unpatentable over ZWICKER et al. The Official Action identifies those elements of the identified claim that are acknowledged as not being explicitly disclosed by the applied reference, but are interpreted by the Official Action as being well known in the art, and therefore obvious to one of skill in the art.

However, irrespective of the correctness of such characterization of such further features, each of the independent claims clearly recites features that cannot reasonably be attributed to ZWICKER, as is addressed in detail in the arguments offered responsive to the anticipation rejection

based on the same reference. Accordingly, applicants respectfully suggest that the ZWICKER reference no more renders obvious the invention described by the present claims than it does anticipate such.

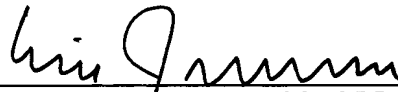
In light of the amendments provided above and the arguments offered in support thereof, applicants believe that the present application is in condition for allowance and an early indication of the same is respectfully requested.

If the Examiner has any questions or requires further clarification of any of the above points, the Examiner may contact the undersigned attorney so that this application may continued to be expeditiously advanced.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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